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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,506	09/29/2003	Denni Liao	2450-0560P	8174

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EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,506

Applicant(s)

LIAO, DENNI

Examiner

Christopher Verdier

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inlet being concentric with respect to the fan housing (claim 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because it is replete with grammatical errors and non-idiomatic language too numerous to mention in all instances. The following are several

Art Unit: 3745

examples of defects. The specification should carefully be checked and proofread for additional defects. Appropriate correction is required.

On page 1, line 4, -- a -- should be inserted after "of".

On page 1, line 5, -- an -- should be inserted before "improved".

On page 1, line 15 is non-idiomatic.

On page 1, line 17, -- an -- should be inserted after "or".

Examiner's Suggestions to Claim Language

The following are suggestions to improve the clarity and precision of the claims:

In claim 3, line 3, "an inlet" may be changed to -- the inlet being located --.

In claim 3, last line, "an outlet" may be changed to -- the outlet being located --.

In claim 4, line 2, "the" may be changed to -- a --.

In claim 5, line 2, "the" may be changed to -- a --.

Claim Objections

Claim 4 is objected to because of the following informality: Appropriate correction is required.

Claim 4 should end with a period.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3745

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 9, "a closed loop" is unclear. The term "closed loop" relates to computer control algorithms, or turbine engine cycles, for example, and not the fan art, and it is unclear what Applicant means by "closed loop". Perhaps applicant intends for this term to refer to a closed curve or a closed interval, in a mathematical sense. The specification should be amended accordingly. In claim 1, lines 7-9, the recitation of the area of the blades covered by the inlet being from a maximum to a minimum gradually in a closed loop appears to be inaccurate, because in figures 3 and 6, adjacent the lower portion of reference numeral 131, the area of the blades covered appears to be an abrupt transition.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 5-8, as far as they are definite and understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto 2004/0123978 (figures 1-9 and 11). Note the

Art Unit: 3745

fan 24 for cooling an electronic device, comprising a plurality of blades 46 rotatably supported by an axis A, an outlet 43, and an inlet 42a, 42b having a shape started from an unnumbered reference point thereof with respect to the outlet, with the blades being partially covered by the inlet from the reference point (near 50/55), and an area of the blades covered by the inlet is from a maximum (at the smallest distance "L" in figure 7) to a minimum (at the largest distance "L" in figure 7) gradually in a closed segment thereby increasing a heat dissipation capability of the fan, with the fan being centrifugal, and a housing form 35 mounting the blades therein wherein the housing comprising an inlet 42a on the top and an inlet 42b the bottom surface thereof and an outlet 43 at a side. The inlet is eccentric with respect to the housing, and the inlet has a volute shape, with the blades having the same shape and being equally spaced around the axis. Because of the eccentric shape of the inlet, the area of the blades covered by the inlet may also be calculated from outside of the blades to the axis of the blades.

Claims 1-2 and 5-8, as far as they are definite and understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 55-69,799 (figures 3-4). Note the fan for cooling an electronic device, comprising a plurality of blades near 2 rotatably supported by an axis, an outlet 8, and an inlet 7 having a shape started from an unnumbered reference point thereof with respect to the outlet, with the blades being partially covered by the inlet from the reference point, and an area of the blades covered by the inlet is from a maximum to a minimum gradually in a closed segment thereby increasing a heat dissipation capability of the fan, with the fan being centrifugal. The inlet is eccentric with respect to the housing, and the inlet has a volute shape, with the blades having the same shape and being equally spaced around the axis. Because

Art Unit: 3745

of the eccentric shape of the inlet, the area of the blades covered by the inlet may also be calculated from outside of the blades to the axis of the blades.

Claims 1-2 and 5-8, as far as they are definite and understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Zenkner 3,824,028 (figures 11-13). Note the fan for cooling an electronic device, comprising a plurality of blades near 52 rotatably supported by an axis 11a, an outlet 53, and an inlet 11 having a shape started from an unnumbered reference point thereof with respect to the outlet, with the blades being partially covered by the inlet from the reference point, and an area of the blades covered by the inlet is from a maximum to a minimum gradually in a closed segment thereby increasing a heat dissipation capability of the fan, with the fan being centrifugal. The inlet is eccentric with respect to the housing 51, and the inlet has a volute shape, with the blades having the same shape and being equally spaced around the axis. Because of the eccentric shape of the inlet, the area of the blades covered by the inlet may also be calculated from outside of the blades to the axis of the blades.

Claims 1-2 and 5-8, as far as they are definite and understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Hopfensperger 5,813,834. Note the fan for cooling an electronic device, comprising a plurality of blades near 2 rotatably supported by an axis, an outlet 6, and an inlet 11 having a shape started from an unnumbered reference point thereof with respect to the outlet, with the blades being partially covered by the inlet from the reference point, and an area of the blades covered by the inlet is from a maximum to a minimum gradually in a closed segment thereby increasing a heat dissipation capability of the fan, with the fan being

Art Unit: 3745

centrifugal. The inlet is eccentric with respect to the housing 1, and the inlet has a volute shape, with the blades having the same shape and being equally spaced around the axis. Because of the eccentric shape of the inlet, the area of the blades covered by the inlet may also be calculated from outside of the blades to the axis of the blades.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsui 5,504,650 in view of Japanese Patent 55-69,799 (figures 3-4). Katsui (figures 9A-9B) discloses a centrifugal fan for cooling an electronic device, comprising a plurality of blades 2a rotatably supported by an axis, an unnumbered outlet 8, and an inlet 8a, which is concentric with respect to a housing near H. The blades have the same shape and are equally spaced around the axis. However, Katsui does not disclose the inlet having a shape started from a reference point with respect to the outlet such that the blades are partially covered by the inlet from the reference point, with an area of the blades covered by the inlet being from a maximum to a minimum gradually in a closed segment, with area of the blades covered by the inlet being calculated from outside of the blades to the axis of the blades.

Art Unit: 3745

Japanese Patent 55-69,799 (figures 3-4) shows a fan having an inlet 7 having a shape started from an unnumbered reference point thereof with respect to an outlet 8, with blades (near 2) being partially covered by the inlet from the reference point, and an area of the blades covered by the inlet is from a maximum to a minimum gradually in a closed segment, with the area of the blades covered by the inlet being calculated from outside of the blades to the axis of the blades, for the purpose of increasing the ventilating volume and improving the efficiency.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the fan of Katsui such that inlet has a shape started from a reference point with respect to the outlet such that the blades are partially covered by the inlet from the reference point, with an area of the blades covered by the inlet being from a maximum to a minimum gradually in a closed segment, with area of the blades covered by the inlet being calculated from outside of the blades to the axis of the blades, as taught by Japanese Patent 55-69,799, for the purpose of increasing the ventilating volume and improving the efficiency.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Davidson '304 and '399 is cited to show centrifugal fans with eccentric inlet openings.

Kinsworthy is cited to show a blower with oval-shaped inlet openings.

Japanese Patents 9-126,193 and 5-149,297 are cited to show fans with offset inlet openings.

Art Unit: 3745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
July 12, 2004



Christopher Verdier
Primary Examiner
Art Unit 3745